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Applicant(s) : Kochevar et. al.  
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Dear Sir:

The Examiner's attention is respectfully drawn to the enclosed documents listed on the accompanying PTO form 1449. Copies of the documents were previously submitted with Information Disclosure Statements filed June 19, 2002, June 20, 2002, October 18, 2002, June 16, 2003, September 24, 2001, and August 9, 2002. Accordingly, no copies are submitted herewith.

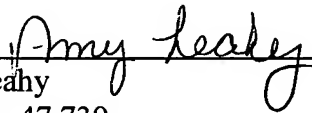
As this Information Disclosure Statement is being filed before the mailing of the first Office Action, it is believed that no fee is required for entry of this paper. However, the Commissioner is hereby authorized to charge any such fee, or credit any overpayment to Deposit Account 50-0320.

The filing of this Information Disclosure Statement is not an admission that the documents identified herein constitute prior art to the present application.

Applicants respectfully request that the Examiner considers and makes of record the documents cited herewith and that a copy of Form PTO-1449 be initialed by the Examiner and returned to the undersigned.

Respectfully submitted,

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Attorneys for Applicants

  
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Encs. PTO form 1449  
References (125)

Based on Form PTO-1449 (3/90)				ATTY. DOCKET NO.  <b>910000-2012.3</b>		SERIAL NO.  <b>To Be Assigned</b>		
LIST OF REFERENCES CITED BY APPLICANT (Use several sheets if necessary)				APPLICANT  <b>Kochevar et al.</b>				
				FILING DATE  <b>Herewith</b>		GROUP  <b>Not known</b>		
U.S. PATENT DOCUMENTS								
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE	
	AA	US 5,292,362	3/8/94	Bass et al.				
	AB	US 5,209,776	5/11/93	Bass et al.				
	AC	US 5,616,562	4/1/97	Murphy et al.				
	AD	US 5,374,515	12/20/94	Parenteau et al.				
	AE	US 4,127,109	11/28/78	Fourney et al.				
	AF	US 6,030,974	2/29/00	Swartz et al.				
	AG	US 5,147,514	9/15/92	Mechanic				
	AH	US 5,431,790	07/11/95	Nesburn et al.				
	AI	US 5,552,452	09/03/96	Khadem et al.				
	AJ	US 5,565,551	10/15/96	Lewis et al.				
	AK	US 5,829,448	11/03/98	Fisher et al.				
	AL	US 5,917,045	06/29/99	Lewis et al.				
	AM	US 5,942,534	08/24/99	Trauner et al.				
	AN	US 6,030,974	02/29/00	Schwartz et al.				
	AO	US 5,917,045	06/29/99	Lewis et al.				
	AP	US 6,107,466	08/22/00	Hasan et al.				
	AQ	US 5,844,016	12/01/98	Sawhney et al.				
FOREIGN PATENT DOCUMENTS								
		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
	AR	CA 02255493	12/9/98	Canada				
	AS							
OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)								
	AT		Saunders " Tissue welding a new kind of laser surgery uses molecules to stitch together wounds" 19 January 1998, pp 16-17, SCIENCE NEWS Biology, <a href="http://www.discover.com/science_news/bioscience.html">http://www.discover.com/science_news/bioscience.html</a>					
	AU		Judy M.M., L. Chen, L. Fuh, H. Nosir, R. Jackson, J. Matthews, D. Lewis, R. Utecht, D. Yuan. "Photochemical cross-linking of type 1 collagen with hydrophobic and hydrophilic 1, 8 naphthalimide dyes." SPIE. Vol. 2682: 53-55					

Based on Form PTO-1449 (3/90)  LIST OF REFERENCES CITED BY APPLICANT (Use several sheets if necessary)	ATTY. DOCKET NO.  <b>910000-2012.3</b>	SERIAL NO.  <b>To Be Assigned</b>
	APPLICANT  <b>Kochevar et al.</b>	
	FILING DATE  <b>Herewith</b>	GROUP  <b>Not known</b>

	AV	Hoekstra, A. H. Struszyk, O. Kivekas. "Percutaneous microcrystalline chitosan application for sealing arterial puncture sites." <i>Biomaterials</i> , 19:1467-1471, 1998.
	AW	Riley J. N., T. Disckson, D. Hou, P. Rogers, K. March, K. McNally-Heintzzelman. "Improved laser-assisted vascular tissue fusion using light-activated surgical adhesive in a porcine model." <i>Biomed Sci Instrum</i> . 37:451-6, 2001
	AX	Moser, D., J. Riley, B. Sorg, A. Welch, K. McNally Heintzzelman. "New range of light-activated surgical adhesives for tissue repair." <i>Biomed.Sci Instruments</i> : 37-441-449, 2001
	AY	U. Kumar, D. Albala. "Newer techniques in intracorporeal tissue approximation: suturing, tissue adhesives, and microclips." <i>Urol Clin North Am</i> . 28 (1): 15-21, 2001
	AZ	McNally, K., B. Sorg, A. Welch. "Novel solid protein soldier designs for laser-assisted tissue repair". <i>Lasers Surg Med</i> . 27(2): 147-157, 2000
	BA	Bleustein, C., C. Walker, D. Felsen, D. Poppas. "Semi-solid albumin soldier improved mechanical properties for laser tissue welding." <i>Lasers Surg Med</i> . 27(2): 140-146, 2000
	BB	Sorg, B., K. McNally, A. Welch. "Biodegradable polymer film reinforcement of an indocyanine green-doped liquid albumin soldier for laser-assisted incision closure. <i>Lasers Surg Med</i> . 27(1): 73-81, 2000
	BC	McNally, K., B. Sorg, E. Chan, A. Welch, J. Dawes, E. Owen. "Optimal parameters for laser tissue soldiering: II. Premixed versus separate dye-soldier techniques." <i>Lasers Surg Med</i> . 26(4): 346-356, 2000
	BD	Tanaka, T., S. Furutani, M. Nakamura, T. Nishida. "Changes in extracellular matrix components after excimer laser photoablation in rat cornea." <i>Jpn J Ophthalmol</i> . 43(5): 348-354, 1999
	BE	Lauto, A., I. Kerman, M. Ohebshalon, D. Felsen, D. Poppas. "Two-layer film as a laser soldering bi+2omaterial." <i>Lasers Surg Med</i> . 25(3): 250-256, 1999
	BF	G. Timberlake, A. Patmore, A. Shallal, D. McHugh, and J. Marshall, "Thermal and infrared diode laser effects on indocyanine green treated corneal collagen," presented at the SPIE annual meeting, January 19, 1993, paper 1882-28
	BG	Goins et al. "Photodynamic biological tissue glue to enhance .....", <i>J. Cataract Refract Surg</i> . Vol. 23, November 1997:1331-1338
	BH	Quinn, James, et al. "A Randomized Trial Comparing Octylcyanoacrylate Tissue Adhesive and Sutures in the Management of Lacerations," <i>JAMA</i> . 277 # 19: 1527-1530, May 1997
	BI	Oz, Mehmet, et al. "Comparison of laser-assisted fibrinogen-bonded and sutured canine arteriovenous anastomoses," <i>Surgery</i> . 112 #1: 76-83, July 1992.
	BJ	Campion, Edmund, et al. "Repair of Peripheral Nerves with the Argon Laser," <i>The Journal of Bone and Joint Surgery</i> . Vol 72-A #5: 715-723, June 1990.
	BK	Kuo, Paul. "Tissue Fusion," <i>Laser in Maxillofacial Surgery and Dentistry</i> . 175-178.
	BL	Donkerwolcke, M., et al. "Tissues and Bone Adhesives- Historical Aspects," <i>Biomaterials</i> . 19: 1461-1466, 1998.
	BM	Bingley, John, et al. "Late Complications of Tissue Glues in Aortic Surgery," <i>Ann Thorac Surg</i> . 69: 1764-1768, 2000.
	BN	Tang, J., et al. "Original Articles Morphological Analysis of Microarterial Media Repair After 830 nm Diode Laser Assisted End to end Anastomosis: Comparison with Conventional Manual Suture," <i>Lasers in Medical Science</i> . 12: 300-305, 1997.
	BO	Lemp MA. Report of the National Eye Institute/Industry Workshop on Clinical Trials in dry eyes. <i>CLAO J</i> . (1995) 21: 221-232.
	BP	Musa OM, Choi SY, Horner JH, Newcomb M., Absolute Rate Constants for alpha-Amide Radical Reactions. <i>J Org Chem</i> . 1998 Feb 6;63(3):786-793
	BQ	Al-Maharik N, Engman L, Malmstrom J, Schiesser CH., <i>J Org Chem</i> 2001 Sep 21;66(19):6286-90
	BR	Chaulk SG, Pezacki JP, MacMillan AM., <i>Biochemistry</i> 2000 Aug 29;39(34):10448-53
	BS	Aveline BM, Redmond RW., <i>Photochem Photobiol</i> 1998 Sep;68(3):266-75
	BT	Epe B, Ballmaier D, Adam W, Grimm GN, Saha-Moller CR. <i>Nucleic Acids Res</i> 1996 May 1;24(9):1625-31
	BU	Reszka KJ, Chignell CF., <i>Photochem Photobiol</i> 1994 Nov;60(5):450-4

Based on Form PTO-1449 (3/90)  LIST OF REFERENCES CITED BY APPLICANT (Use several sheets if necessary)			ATTY. DOCKET NO.	SERIAL NO.
			910000-2012.3	To Be Assigned
			APPLICANT  Kochevar et al.	
			FILING DATE	GROUP
			Herewith	Not known
	BV		Lepri E, Castagnino E, Binaglia L, Giampietri A, Corsano S, Fioretti MC., Arzneimittelforschung 1993 Mar;43(3):381-3	
	BW		Mulroy L, Kim J, Wu I, Scharper P, Melki SA, Azar DT, Redmond RW, Kochevar IE., Invest Ophthalmol Vis Sci 2000 Oct;41(11):3335-40	
	BX		Khadem J, Truong T, Ernest JT., Cornea 1994 Sep;13(5):406-10	
	BY		Manning FJ, Wehrly SR, Foulks GN., Ophthalmology 1995 Dec; 102(12): 1953-1957.	
	BZ		Tabery HM, Acta Ophthalmol Scand 1998 Apr; 76(2): 142-145	
	CA		Kim J., Foulks GN, Cornea 1999 May; 18(3): 328-332	
	CB		Arch Ophthalmol 1992 Jul; 110(7): 984-993	
	CC		Tseng SC, Zhang SH, Cornea 1995 Jul; 14(4): 427-435	
	CD		Wander AH, Neumeister RD, Tschismadia I, Choromokos EA, Madukawa T., Cornea 1985-1986; 4(1) 8-13	
	CE		Norm MS., Acta Ophthalmol (Copenh) 1967; 45(3): 347-358	
	CF		<a href="http://www.oftalmored.com/ojoseco/cap26.htm">http://www.oftalmored.com/ojoseco/cap26.htm</a>	
	CG		<a href="http://www.medal.org/docs_ch19/doc_ch19_10.html">http://www.medal.org/docs_ch19/doc_ch19_10.html</a>	
	CH		Prause JU Kriegbaum NJ et al. Rose Bengal Score- A possible key parameter when evaluating disease level and progression in Primary Sjogren's Syndrome. J. Autoimmunity 1989; 2: 501-507	
	CI		Van Bijsterveld OP. Diagnostic tests in the Sicca Syndrome. Arch Ophthal. 1969; 82:10-14.	
	CJ		Toriumi D.S., et al. (1990) "Histotoxicity of cyanoacrylate tissue adhesives. A comparative study." Arch. Otolaryngol. Head Neck Surg. 116: 546-550.	
	CK		Fujita T., et al. (2000) "Successful preservation of human skin by vitrification." J. Burn Care Rehabil. 21: 304-309.	
	CL		Forseth D.M., et al. (1992) "The current status of cyanoacrylate and fibrin tissue adhesives" J. Long Term Eff. Med. Implants 2(4): 221-233.	
	CM		Chan, et al. "Photochemical tissue bonding in skin grafting- An ex vivo study." 29 <sup>th</sup> Annual Meeting of the American Society of Photobiology. (July 7 <sup>th</sup> -12 <sup>th</sup> , 2001.	
	CN		J.D. Spikes, "Photodynamic Action: From Paramecium to Photochemotherapy" Photochemistry and Photobiology, Vol. 65 Special Issue, May 1997, 65S: 142-147S	
	CO		Bass & Treat (1995) "Laser Tissue Welding: A comprehensive review of current and future clinical applications" Lasers Surg. Med. 17: 315-349.	
	CP		Dahlstrom K.K., et al. (1991) "The use of Autologous Fibrin Adhesive in Skin Transportation" Plastic and Reconstructive Surgery 89(5): 968-972.	
	CQ		Abergel et al. "Skin closure by Nd: YAG laser welding", May (1986), J. Am Acad Dermatol. 14: 810-814	
	CR		Aveline et al., "Photochemistry of the Nonspecific Hydroxyl Radical Generator, N-Hydroxypyridine-2(1H)-thione", October 23, 1996, J. Am. Chem. Soc. 118: 10113-10123.	
	CS		Barton et al., "The Generation and Reactivity of Oxygen....", January (1991) Tetrahedron Lett 32:6869-6872.	
	CT		Chuck et al. "Dye-enhanced Laser Tissue Welding," Lasers in Surgery and Medicine 9: 471-477 (1989)	
	CU		Cilesiz et al., "Controlled Temperature Tissue Fusion...." (1997) Lasers Surg Med 21:269-286	
	CV		Diestelhorst et al., "Clinical dose-Regimen with Latanoprost,.....", Survey of Ophthalmology, vol. 414, supp. 2, February 1997: s77-s81	
	CW		Gandin et al. "Quantum Yield of Singlet Oxygen...." March (1983) Photochem Photobiol 37:271-278.	
	CX		Goins et al., "Relative Strength of photodynamic....", J Cataract Refract Surg., Vol. 24, December 1998: 1566-1570.	
	CY		Gollnick & Schenck, Mechanism and Stereoselectivity of "...", (1964) Pure Appl Chem 9: 507-525.	
	CZ		Henrick et al., "Organic tissue glue in the closure of cataract incisions in rabbit eyes", September (1991) J. Cataract Refract Surg 17: 551-555.	

Based on Form PTO-1449 (3/90)	ATTY. DOCKET NO.  <b>910000-2012.3</b>	SERIAL NO.  <b>To Be Assigned</b>
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	FILING DATE  <b>Herewith</b>	GROUP  <b>Not known</b>

DA	Judy et al., "Gel electrophoretic studies of photochemical....", (1994) Proc SPIE- Int Soc Opt Eng 2128: 506-509
DB	Katol et al., "Aggregation of Collagen Exposed to UVA....", Photochemistry and Photobiology, vol. 59, no. 3: 343-349, 1994.
DC	Khadem et al., "Photodynamic Biologic Tissue Glue", Cornea, vol. 13, no. 5, (1994): 406-410.
DD	Khodadoust, "Tissue Adhesives in Ophthalmology", Surgical Pharmacology of the Eye (1985): 223-234.
DE	Lewis et al. Dimeric Non-Azo Naphthalimides and Used for Same, US 5,917,045, issued June 29,1000 (filing date of June 7, 1995)
DF	Massicotte et al., "Effects of Endogenous Absorption in Human...." (1998)Lasers in Surgery and Medicine 23: 18-24.
DG	Melki et al. "Photochemical Tissue Repair (Welding) of Clear Cornea Incisions," March (1999) IVOS, vol. 40, no. 4: s340, abstract 1803-B711
DH	Mulroy et al., "Photochemical Tissue Bonding for Corneal Repair and Transplants", 27 <sup>th</sup> Annual Meeting of the American Society for Photobiology, Abstract MPM-E21 (1999)
DI	Oz et al., "Tissue soldering by use of indocyanine.....", J. Vascular Surgery, vol. 11, no. 5, (1990): 718-725.
DJ	Ramshaw et al., "Methylene blue sensitized....", Biochimica et Biophysica Acta 1206 (1994) 225-230
DK	Shigemitsu et al., "The utilization of a biological adhesives for wound.....", (1997) International Ophthalmology 20: 323-328.
DL	Spoerl et al. "Induction of Cross-links in Cornea Tissue", Exp. Eye res. (1998) 66, 97-103.
DM	Stewart et al., "Laser assisted Vascular...." (1996) Lasers in Surgery and Medicine 19: 9-16
DN	Poppas et al., "Temperature-Controlled Laser.....", (1996) Lasers in Surgery and Medicine 18: 335-344.
DO	Wider et al, "Skin Closure with Dye-Enhanced...." December (1991) Plastic Reconstr Surg 88: 1018-1025.
DP	Timberlake et al., Corneal Laser Welding Using a Light-Activated Protein Crosslinking Dye, investigative Ophthalmology & Visual Science 38(4) S510, March 15, 1997
DQ	Poppas et al., "Human Albumin solder supplemented.....", (1996) Lasers in Surgery and Medicine 19: 360-368.
DR	Best TM, Garrett WE Jr. Basic science of soft tissue: muscle and tendon. In DeLee JC, Drez D (eds): Orthopaedic Sports Medicine. WB Saunders, Philadelphia:1-45. 1994
DS	Bosch U, Kasperczyk WJ, Oestern HJ, Tsuche H. (1994) The patellar tendon graft for PCL reconstruction. Morphological aspects in a sheep model. Acta Orthop Belg 60 suppl: 57-61.
DT	Davis JJ, Mason KT, Clark DA. (1999) Achilles tendon ruptures stratified by age, race and cause of injury among active duty U.S. Military members. Mil Med 164(12): 872-873.
DU	Houshian S, Tscherning T, Riegels-Nielsen P. (1998) The epidemiology of Achilles tendon rupture in a Danish county. Injury 29(9): 651-654
DV	Judy MM, Matthews JL, Boriack RL, Burlacu A, Lewis DE, Utech RE (1993b) Photochemical cross-linking of Type I collagen with brominated 1,8-naphthalimide dyes and visible light. SPIE 1882: 221-4.
DW	Judy MM, Mathews JL, Boriach RL, Burlacu A, Lewis DE, Utecht RE (1993b) Heat-free photochemical tissue welding with 1,8-naphthalimides dyes using visible (420nm)light. SPIE Proc 1876: 175-9.
DX	MAJ Francis, Kilkelly FX, Choma TJ. (1996) Tendon repair by laser welding: A histologic and biomechanical comparison and suture repair with CO2 and Argon lasers. Laser Surg Med 19: 487-491.
DY	Koh WI, Lim BH. (1999) Soft tissue Complications following Kirschner wire fixation for fusion of basal joint arthritis. Hand surgery 4(2): 197-202
DZ	Lambert CR and Kochevar IE (1997) Electron transfer quenching of the rose bengal triplet state. Photochem Photobiol 66(1): 15-25.
EA	Leppilahti J, Orava S. (1998) Total Achilles tendon rupture. A review. Sports Med 25(2): 79-100.
EB	Maffulli N, Waterston SW, Squair J, Reaper J, Douglas AS (1999) Changing incidence of Achilles tendon rupture in Scotland: a 15 year study. Clin J. Sport Med. 9(3): 157-160.

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	Herewith	Not known

	EC	Mulroy L, Kim J, Wu I, Scharper P, Melski SA, Azar DT, Redmond RW, Kochevar IE (2000) Photochemical kertodesmos for repair of lamellar corneal incisions. Invest Ophthal Vis Sci 41:3335-3340.
	ED	Reddy GK, Stehno-Bittel L, Enwemeka CS. (1998a) Laser photostimulation of collagen production in healing rabbit Achilles tendons. Laser Surg Med 22: 281-287.
	EE	Reddy GK, Stehno-Bittel L, Enwemeka CS. (1998b) Biochemistry and biomechanics of healing tendon: part II. Effects of combined laser therapy and electrical stimulation. Med Sci Sports Exerc 30(6): 794-800.
	EF	Shereff. (ed) (1993) Atlas of foot and ankle surgery. WB Saunders, Philadelphia: 304-311
	EG	Shino K, Nakata K, Horibe S, Inoue M, Nakagawa S. (1993) Quantitative evaluation after arthroscopic anterior cruciate ligament reconstruction. Allgraft versus autograft. Am J. Sports Med. 21(4): 609-616.
	EH	Stiel H., Teuchner K, Paul A, Leupold D, Kochevar IE. (1996) Quantitative comparison of excited state properties and intensity-dependent photosensitization by rose bengal. J. Photochem Photobiol 33: 245-254.
	EI	Barak et al. (1997) Surv. Ophthalmol 42 Supp. 1: S77-81
	EJ	Barton et al. (1991) Tetrahedron Lett 32: 311-314.
	EK	Boivin et al. (1990) Tetrahedron Lett 31: 6869-6872
	EL	Henrick et al. (1987) J. Cataract Refract Surg 13: 551-553
	EM	Annual Meeting of the American Society for Photobiology. Abstract-SPM-G24 (1997)
	EN	L. Mulroy et al. "Photochemical Keratodesmos for Repair of Lamellar Corneal Incisions" Investigative Ophthalmology & Visual Science, October 2000, vol. 41, no. 11: 3335-3340.
	EO	Detweiler, Mark, et al. " Sutureless and Reduced Suture Anastomosis of Hollow Vessels With Fibrin Glue: A Review," Journal of Investigative Surgery. 12: 245-262, 1999.
	EP	Dunn, Christopher, et al. " Fibrin Sealant: A Review of its Use in Surgery and Endoscopy," Drugs. 58 #5: 863-886, November 1999.
	EQ	Bernard, Laurie, et al. " A Prospective Comparison of Octyl Cyanoacrylate Tissue Adhesive (Dermabond) and Suture for the Closure of Excisional Wounds in Children and Adolescents," Arch Dermatol 137: 1177-1180, September 2001.
	ER	Gelli, R., et al. " Vessel Wall Recovery After Diode Laser Assisted Microvascular Anastomosis: Clinical and Histologic analysis and Long Term Follow Up," Journal of Reconstructive Microsurgery. 13 #3: 199-205, April 1997.
	ES	Oz, Mehmet, et al. " Indocyanine Green Dye Enhanced Welding with a Diode Laser," Surgical Forum: Vascular Surgery. 316- 319.
	ET	Bass, Lawrence, et al. " Changes in Type I Collagen Following Laser Welding," Lasers in Surgery and Medicine. 12: 500-505, 1992.
	EU	Bailes, Julian, et al. "Review of Tissue Welding Applications in Neurosurgery," Microsurgery. 8: 242-244, 1987.
	EV	Saunders "Tissue Welding A new kind of laser surgery uses molecules to stitch together wounds" 19 January 1998, pp 16-17, SCIENCE NEWS: Biology, <a href="http://www.discover.com/science_news/bioscience.html">http://www.discover.com/science_news/bioscience.html</a>

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